UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE.
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,498	12/21/2001	Ulrich Peuchert	SGW-115	4480

23599 7590 08/14/2003

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER
BOLDEN, ELIZABETH A

ART UNIT	PAPER NUMBER
1755	12

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/024,498	PEUCHERT, ULRICH	
	Examiner	Art Unit	
	Elizabeth A. Bolden	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37 and 46-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14,15,28 and 29* is/are allowed.

6)☒ Claim(s) *1-13,16-27, 30-37 and 46-56* is/are rejected.

7)☒ Claim(s) *7,13,21,27,36 and 37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Any rejections and or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

Claim Objections

Claims 7, 13, 21, and 17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 7 depends from claim 1, which uses "consisting of" language and therefore would be free of arsenic oxide and antimony oxide since neither As_2O_3 nor Sb_2O_3 are mentioned in claim 1.

Claim 13 depends from claim 1, which already requires that the SrO+BaO content be more than 3 weight percent.

Claim 21 depends from claim 2, which uses "consisting of" language and therefore would be free of arsenic oxide and antimony oxide since neither As_2O_3 nor Sb_2O_3 are mentioned in claim 2.

Claim 27 depends from claim 2, which already requires that the SrO+BaO content be more than 3 weight percent.

Claims 36 and 37 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1 and 2, respectively. When two claims in an application are duplicates or else are so

close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. "When the specification provides a definition for terms in the claims... the specification can be used in interpreting claim language." See MPEP 2111.01. "Alkali-free" is defined by the specification as meaning that the glass is "essentially free of alkali metal oxides" but may contain "less than 1500ppm" alkali metal oxides. See page 8, second paragraph. In view of this definition, Claims 36 and 37 are substantial duplicates of claims 1 and 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-13, 16-27, 30-37, and 48-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizawa et al., U.S. Patent 6,537,937.

Nishizawa et al. teach an alkali-free glass consisting essentially of in terms of mole percent: 64-76 SiO_2, 5-16 B_2O_3, 5-14 Al_2O_3, 1-16.5 MgO, 0-14 CaO, 0-6 SrO, and 0-2 BaO. See abstract of Nishizawa et al. Nishizawa et al. teach that glass can be as a substrate for display technologies. See column 1, lines 7-10.

Nishizawa et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges in terms of weight percent of glass components, which are sufficiently specific to anticipate the claim limitations. However, it appears that if the

compositional ranges of Nishizawa et al. were converted to weight percent, the compositional ranges would overlap the compositional ranges of claims 1-13, 16-27, 30-37 and 49-56. See theoretical composition below. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

	SiO_2	B_2O_3	Al_2O_3	MgO	CaO	SrO	BaO
Mol %	66.0	8.0	10.0	6.0	7.5	0.5	2.0
Wt %	60.4	8.5	15.5	3.7	6.4	0.8	4.7

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Narita et al. because overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the same density as recited in claim 48.

Claims 6, 20, and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narita et al., U.S. Patent 6,468,933.

Narita et al. teach an alkali-free glass consisting of 40-70 wt% SiO_2, 5-20 wt% B_2O_3, 6-25 Al_2O_3, 0-10 wt% MgO, 0-15 wt% CaO, 0-10 wt% SrO, 0-30 wt% BaO, 0-10 wt% ZnO, 0.05-2 wt% SnO_2, and 0.005-1 wt% Cl_2. See abstract of Narita et al. Narita et al. teach that glass can be as a substrate for display technologies. See column 1, lines 7-10.

Narita et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Narita et al. overlap the compositional ranges of claims 6, 20, and 53-56. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Narita et al. because overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Claims 6, 20, 46, 47, 50, and 52-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watzke, German Patent, DE 196 01 922 A1.

An English translation of DE 196 01 922 A1 accompanied a previous action. In reciting this rejection, the examiner will cite this translation.

Watzke teaches an alkaline earth aluminoborosilicate glass consisting of 50-65 wt% SiO_2, 5-15 wt% B_2O_3, 10-20 Al_2O_3, 0-10 wt% MgO, 0-20 wt% CaO, 0-20 wt% SrO, 0-20 wt% BaO, 0-10 wt% ZnO, 0.01-1 wt% SnO, 0.1-2 wt% ZrO_2, 0-10 La_2O_3, 0-10 wt% Nb_2O_5, 0-10 wt% Ta_2O_5 and 0-10 wt% TiO_2 and other minor components. See the Derwent Abstract of Watzke and page 9, lines 6-11. More specifically, Watzke teaches the compositional ranges are 53-63 wt% SiO_2, 5-15 wt% B_2O_3, 12-20 Al_2O_3, 0-5 wt% MgO, 2-10 wt% CaO, 0-10 wt% SrO, 3-15 wt% BaO, 0.01-1 wt% SnO, and 0.1-1 wt% ZrO_2. See page 9, lines 16-18. Watzke teaches that glass can be as a substrate for display technologies or as thin layer solar cells. See page 2, lines

14-19. Watzke teaches that the alkali free flat glasses would have a density less than or equal to 2.6 g/cm^3. See page 6, line 8.

Watzke differs from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Watzke overlap the compositional ranges of claims 6, 20, 46, 47, 50, and 52-56. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Watzke because overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Claims 6, 20, 46, 47, 50, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lautenschläger et al., U.S. Patent 6,465,381.

Lautenschläger et al. teach an alkali-free glass consisting of >60-65 wt% SiO_2, 6.5-9.5 wt% B_2O_3, 14-21 Al_2O_3, 1-8 wt% MgO, 1-6 wt% CaO, 1-9 wt% SrO, 0.1-3.5 wt% BaO, 0.1-1.5 wt% ZrO_2, 0.1-1 wt% SnO_2, 0.1-1 TiO_2 and 0.001-1 wt% CeO_2. See abstract of Lautenschläger et al. Lautenschläger et al. teach that glass can be as a substrate for display technologies. See Abstract of Lautenschläger et al. Lautenschläger et al. teach that the glass has a density of less than 2.5 g/cm^3. See column 11, line 55. The reference also teaches the use of refining agents such as As_2O_3, Sb_2O_3, Cl^-, F^-, and SO_4^-. See column 7, lines 33-41.

Lautenschläger et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Lautenschläger et al. overlap the compositional ranges of claims 6, 20, 46, 47, 50, and 52. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Lautenschläger et al. because overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Response to Arguments

Applicant's arguments with regards to the 35 USC 102 rejection over Peuchert et al., see page 14, filed 19 June 2003, with respect to claims 1-37, 40-43, and 48 have been fully considered and are persuasive. The 35 USC 102(e) rejection in view of Peuchert et al. of claims 1-37, 40-43, and 48 has been withdrawn.

Applicant's arguments in view of the 35 USC 103(a) rejections over Narita et al., Watzke, and Lautenschläger et al. filed 19 June 2003 have been fully considered but they are not persuasive.

Applicant argues that the glasses of the instant invention are not obvious over Narita et al., (U.S. Patent 6,468,933) since the reference requires the presence of SnO_2 and Cl_2 in the

glass. This is not deemed persuasive since instant claims 6, 20, and 53-56 allow for SnO_2 and Cl_2 in the ranges as described by the reference. See above rejection.

Applicant further argues that the reference does teach broad ranges that includes glass compositions outside the glass composition as claimed in the instant application. This is not deemed persuasive since Narita et al. do teach compositional ranges that overlap the compositional ranges of claims 6, 20, and 53-56. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Applicant argues that the instant invention is not obvious over Watzke, (DE 196 01 922 A1) since the reference requires the presence of SnO_2 in the glass. This is not deemed persuasive since instant claims 6, 20, 46, 47, 50, and 52-56 allow for SnO_2 in the ranges as described by the reference. See above rejection.

Applicant further argues that the reference does not teach any specific examples of the composition nor the specific ratio and content of MgO, CaO, BaO, and SrO.

This is not deemed persuasive since Watzke does teach compositional ranges that overlap the compositional ranges of claims 6, 20, 46, 47, 50, and 52-56. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Applicant argues that the instant invention is not obvious over Lautenschläger et al., (US 6,465,381) since the reference requires the presence of TiO_2, CeO_2, SnO2 and ZnO in the glass. This is not deemed persuasive since instant claims 6, 20, 46, 47, 50, and 52 allow for TiO_2, CeO_2, and SnO_2 in the ranges as described by the reference. See above rejection. As to the

requirement of ZnO in the glass, Lautenschläger et al. teaches that the glass should be free of readily reducible glass components such as ZnO when the glass is formed in the float bath method. See column 6, lines 27-29.

Applicants further argues that since the reference does not teach any specific examples of the composition nor the specific ratio and content of MgO, CaO, BaO, and SrO.

This is not deemed persuasive since Lautenschläger et al. do teach compositional ranges that overlap the compositional ranges of claims 1-37, 40, 42, and 46-48. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Allowable Subject Matter

Claims 14, 15, 28, and 29 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art fails to disclose or suggest an alkali-free aluminoborosilicate glass consisting of by weight percent SiO_2, B_2O_3, Al_2O_3, MgO, CaO, SrO, and BaO with the further inclusion of ZnO as recited in claims 14, 15, 28, and 29 in the claimed amounts.

Conclusion

The additional references cited on the 892 have been cited as art of interest since they are cumulative to or less than the art relied upon in the rejections above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EAB
August 11, 2003

DAVID SAMPLE
PRIMARY EXAMINER